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PATENT
Attorney Docket No.: 19452A-000930US

Assistant Commissioner for Patents
Washington, D.C. 20231

On January 29, 2004

TOWNSEND and TOWNSEND and CREW LLP

By: Gay M. Marshall

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

YANOFSKY and LILJEGREN

Application No.: 09/978,382

Filed: October 15, 2001

For: SELECTIVE CONTROL OF
LIGNIN BIOSYNTHESIS IN
TRANSGENIC PLANTS

Customer No.: 20350

Confirmation No. 4575

Examiner: AD Mehta

Technology Center/Art Unit: 1638

DECLARATION UNDER 37 C.F.R. §
1.132 OF MARTIN F. YANOFSKY, PH.D.

Assistant Commissioner for Patents
Washington, D.C. 20231

I, Martin F. Yanofsky, Ph.D., being duly warned that willful false statements and the like are punishable by fine or imprisonment or both (18 U.S.C. § 1001), and may jeopardize the validity of the patent application or any patent issuing thereon, state and declare as follows:

1. All statements herein made of my own knowledge are true, and statements made on information or belief are believed to be true and correct.

2. I graduated from the University of California at San Diego with a bachelor's of science degree in biology in 1978. In 1986, I graduated from the University of Washington with a Ph.D. degree in microbiology. I have published more than fifty scientific papers on the subject of plant biology.

LILJEGREN and YANOFSKY
Application No.: 09/978,382
Page 2

PATENT

3. I am currently a professor at the University of California, San Diego. I have been in this position for twelve years.

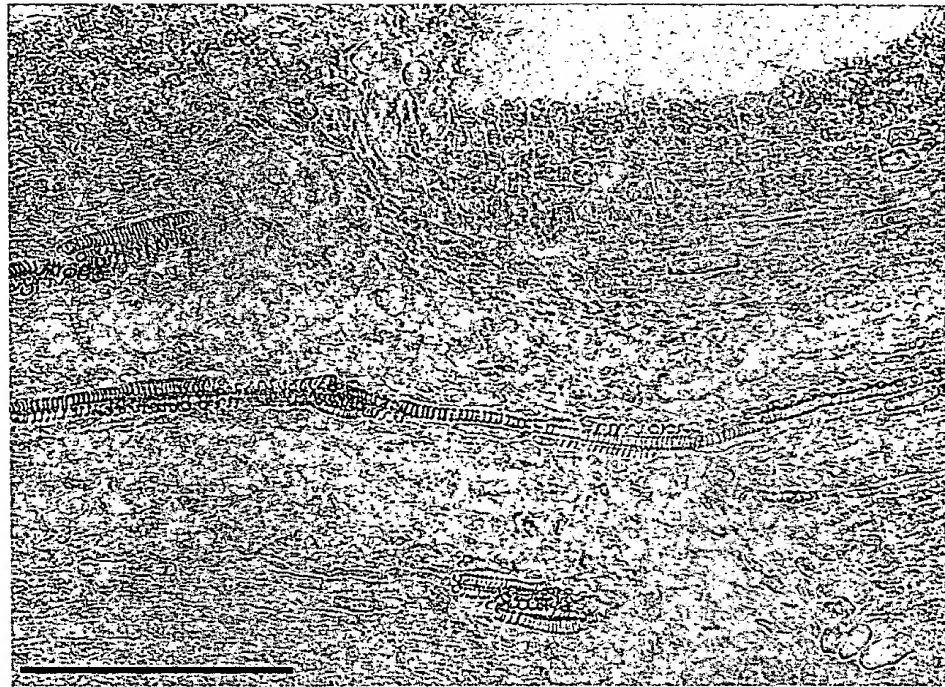
4. I am an inventor of the present patent application and I am familiar with the pending claims and rejections from the patent Examiner. The pending claims are directed to enhancing lignification in a plant by ectopically expressing AGL1 and AGL5. It is my understanding that the Examiner has rejected the claims because the examples in the specification do not provide data regarding enhanced lignification in plant tissues other than the valve mesophyll.

5. We introduced a 35S::IND1 construct into Arabidopsis plants and assayed for lignification. Upon germination, Arabidopsis plants produce a rosette of leaves on the surface of the soil. These leaves are closely spaced as a result of the lack of internode elongation between leaves. Upon the transition to reproductive development in Arabidopsis, the main stem is often referred to as the inflorescence stem, since it is responsible for producing flowers on its flanks. This stem elongates considerably, giving the plant its characteristic height. Inspection of the lignification patterns in the inflorescence stem of wild-type plants, determined by the lignin-specific phloroglucinol stain of a stem section, reveals the normal pattern of stem lignification in the tracheary elements. A similar stem section from 35S::IND1 plant stems appears to reveal ectopic lignification. These results are depicted in the attached figure. The two images in the figure were taken under the same magnification. This preliminary data shows that the 35S::IND1 plants appear to be more extensively lignified than are wild-type plants, indicating that the ectopic expression of IND1 in the stem is sufficient to promote ectopic lignification of cells from the stem.

Date: 1/27/04

By: Martin F. Yanofsky
Martin F. Yanofsky, Ph.D.

**wild type
Col
inflorescence
stem**



**35S::*IND*
flowerless
pedicels
inflorescence
stem**



scale bar is 50 μ m